



PATENT  
Customer No. 22,852  
Attorney Docket No. 07648.0006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Yulin DENG et al. ) Group Art Unit: 1713  
Application No.: 09/621,695 ) Examiner: D. Wilson  
Filed: July 21, 2000 )  
For: WATER SOLUBLE / )  
DISPERSIBLE AND EASY )  
REMOVABLE CATIONIC )  
ADHESIVES AND COATING FOR )  
PAPER RECYCLING )

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**DECLARATION UNDER 37 C.F.R. § 1.132**

I, Dr. Yulin Deng, do hereby make the following declaration:

1. I am one of the co-inventors of the above-identified application.
2. The assignee of the above-identified application is Institute of Paper Science and Technology, Inc.
3. I received a B.S. in Chemistry from Northeast Normal University in China in 1982. I also received a Ph.D. in Polymer Chemistry from Manchester University in 1992.
4. For the last eleven (11) years, I have been engaged in research and development relating to the manufacture of paper and paper products, as well as paper

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recycling. For the last six (6) years, my research has primarily involved in adhesive and coating compositions that can absorb onto paper fibers.

5. I have reviewed U.S. Patent No. 6,007,803 to Mandeville et al. Mandeville et al. discloses cationic co-polymers used as toxin binding agents. These co-polymers are precipitated from reaction mixtures, purified from these mixtures, and then re-dissolved in aqueous solution. The purpose of these binders is to inhibit pathogenic toxic activity by interfering with toxin secretion or forming an inactive toxin complex (see col. 2, ln 9-11 and col. 2, ln. 33-44). Quite differently, a recyclable adhesive composition like that of the present invention exhibits cohesive properties when attached to a paper surface, yet also adsorbs onto fillers and fines during the repulping of the paper and does not cause sticky problems during the recycling process. Given the differences inherent in the purposes of these compounds, the binding co-polymers disclosed by Mandeville et al. are not adhesive in nature like the recyclable compositions disclosed by the present invention.

6. I have also reviewed U.S. Patent No. 4,871,594 to Bister et al. Bister et al. teaches cationic polymers that are water insoluble, aqueous dispersion polymers and used only for the impregnating and priming of porous absorbent substrates. These primers are meant to "reduce the absorbency of [a] substrate and, if necessary, to consolidate it so that a subsequent coating adheres well" (col. 1, ln. 24-27). Because the purposes of such a primer and the recyclable adhesives discussed above are quite different, the primer polymers disclosed by Bister et al. are not adhesive like the recyclable compositions of the present invention.

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7. Finally, I have reviewed U.S. Patent No. 5,518,585 to Huth et al., which discloses cationic polymer dispersions that are water insoluble and used as internal sizing agents. These polymers are added to the aqueous pulp and are retained on the paper web. Huth et al. further describes the purpose of these polymers as to increase the hydrophobicity of the paper. Because these polymers are plastics (see col. 2, ln. 61-65), they are not adhesive in nature.

8. In conclusion, neither Mandeville et al., Bister et al., nor Huth et al. disclose a cationic polymer that is adhesive in nature.

9. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: July 28 2003

By:   
Dr. Yulin Deng, Ph.D.